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CORRES. CONTROL
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23014 RF 94

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ACTION

DIST.	LTR	ENC
BURLINGAME, A.H.		
BUSBY, W.S.		
CARNIVAL, G.J.		
CORDOVA, R.C.		
DAVIS, J.G.		
FERRERA, D.W.		
FRAY, R.E.		
GEIS, J.A.		
GLOVER, W.S.		
GOLAN, P.M.		
HANNI, B.J.		
HEALY, T.J.		
HEDAHL, T.G.	X	
HILBIG, J.G.		
HUTCHINS, N.M.		
JACKSON, D.T.		
KELL, R.E.		
KUESTER, A.W.		
MARX, G.E.		
McDONALD, M.M.		
McKENNA, F.G.		
MORGAN, R.V.		
PIZZUTO, V.M.		
POTTER, G.L.		
SANDLIN, N.B.		
SATTERWHITE, D.G.		
SCHUBERT, A.L.		
SCHWARTZ, J.K.		
SETLOCK, G.H.	X	
STIGER, S.G.		
TOBIN, P.M.		
VOORHEIS, G.M.		
WILSON, J.M.		
NESTA, S.	X	X

CORRES. CONTROL	X	X
ADMN RECORDS	X	X
PATS/T130G		

Reviewed for Addressee
Corres. Control RFP

8/2/94 RDA
DATE BY

Ref Ltr. #

OE ORDER # 5400.1

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AUG 2 2 Rocky Flats Field Office

AUG 2 1994

EGD:PMP:07908

Subpart D Categorical Exclusion (RFFO/CX18-94) Determination

Willis W. Bixby, Deputy Asst. Secretary, Office of Facility Transition & Management, EM-60, HQ

We are writing to submit a categorical exclusion recently approved by the Rocky Flats Environmental Technology Site for your information. A copy of RFFO/CX18-94, Pilot Test of Mobile Water Treatment System, is attached.

James K. Hartman
Acting Assistant Manager for
Site Support and Security

Attachment

cc w/Att:
R. Scott, EM-20
D. Smith, EM-60
S. Olinger, AMESH, RFFO
P. Powell, EGD, RFFO
S. Nesta, EG&G

DOCUMENT CLASSIFICATION
REVIEW WAIVER PER
CLASSIFICATION OFFICE

DOE NEPA REGULATIONS SUBPART D
CATEGORICAL EXCLUSION (CX) DETERMINATION - RFFO/CX18-94

Proposed Action: Pilot Test of Mobile Water Treatment System

Location: Old Sanitary Landfill Pond

Proposed by: U.S. Department of Energy, Rocky Flats Field Office

Description of the Proposed Action:

Rocky Flats Field Office proposes to conduct a pilot field test of a mobile water treatment system (MWTS) at the Rocky Flats Environmental Technology Site Landfill Pond. The purpose of the test is to evaluate field deployment of the water treatment system, system performance, and subsequent demobilization of the system.

Background. Rocky Flats Environmental Technology Site (RFETS) is a National Priorities List site which currently discharges water under a federal National Pollutant Discharge Elimination System permit in accordance with applicable DOE and State of Colorado agreements. Additional site-specific water quality standards have also been applied to water in and around RFETS in conjunction with facility agreements. To compliment these upstream administrative and engineering controls, current surface water management involves a system of collection in downstream ponds, sampling and analysis, and batch or continuous release with treatment as required. Numerous monitoring and control systems are in place to prevent or minimize the risk of contaminating RFETS watercourses.

The surface water quality in and around RFETS is generally excellent. However, occasionally elevated levels of selected water quality parameters (e.g., chromic acid, diesel fuel, selected herbicides, low-level plutonium and uranium, high biochemical oxygen demand, pH extremes) have occurred as a result of spills, or disturbances of historical release sites.

Need for the Project. Historical water quality concerns/problems, as well as preparation for future RFETS missions of Decontamination & Decommissioning and Environmental Restoration, requires the establishment of timely and effective treatment methods for handling tainted water in downstream surface impoundments or other remote locations.

It is anticipated that such treatment methods must be a) effective in removal and control of suspended solids and organics, b) able to treat a wide range of contaminants (i.e., metals and radionuclides), and c) able to be mobilized at hard-to-access or environmentally sensitive locations. Currently, a credible treatment plan or universally effective system is not available for dealing with large volumes (0.1-1.0 million gallons) of tainted surface water. A cost effective approach to finding an acceptable treatment approach is to select and evaluate the performance of commercially available systems and to use this information as a component in future management decision making. This proposed action would investigate one of these commercial systems.

The Six-Stage Mobile Water Treatment System consists of six treatment subsystems and associated monitoring ports, which allow treatment and process monitoring to be performed. The stages are as follows:

- pretreatment holding tank
- sand filtration
- advanced chemical oxidation (ozone and UV)
- granular activated carbon filtration
- electrolytic filtration
- hydroxyapatite filtration.

Ozone concentration, UV absorption, pH, and turbidity would be recorded manually throughout the pilot test program. The system would use conventional technology utilizing ozone, UV, and granular activated carbon to treat low level radionuclide and medium to high levels of volatile and semi-volatile organics and filter inorganic and metal contaminants. Final metal and radionuclide filtration would be accomplished using proven media substances incorporated in the treatment system.

Scope of Work. The proposed project includes the short-term mobilization, operation, and subsequent demobilization of a subcontractor supplied and operated MWTS. The MWTS would be pilot-tested to evaluate the selected system for its ability to meet field performance and service requirements. This information would, in turn, be used to determine whether to acquire full-scale units for RFETS. Laboratory services and complete analyses would be provided by an approved laboratory.

The proposed location for the pilot test would be the Landfill Pond (**Figure 1**). Water within the impoundment consists primarily of (non-process) storm water and leachate from the landfill. Access to the pond location is by single lane gravel road within the Buffer Zone.

The MWTS to be tested is a trailer-mounted, self contained, six-stage treatment system specifically configured for treatment of waterborne contaminants (organics, inorganics, and radionuclides). It uses adsorption and filtration technologies together with ozone destruction of organics to effect contaminant removal or destruction. The system was also selected because it proposes to fulfill the following needs: a) it is rapidly transportable by conventional means over unimproved roads, b) it has its own power source (the system includes a diesel-powered generator), c) it can operate outdoors year-round, and d) it will operate at prescribed flow rates.

The proposed setup location for the trailer portion of the system would be on level ground near the pond outside of wetland areas in an area of approximately 60 feet by 30 feet. Water intake piping would be snaked from the trailer down to the pond over a narrow strip of land and would pass over a 12 inch strip of wetland vegetation at the pond's edge. There would be no impact to the wetland vegetation. Water would be drawn through temporary piping connecting the system with a floating intake (either a floating buoy or 5-gallon water bottle). The proposed flow rate for the system is 10-20 gallons per minute. Over the course of the test, the system is expected to treat 10,000 gallons per day. During the course of operation, the sand filter would be regenerated by backwashing water into a filter bag. Excess water would then be discharged to the pond upon approval by qualified RFETS personnel. Total volume of water in the Landfill Pond is currently 2-2.5 million gallons. Individual Hazardous Substance Sites 167.2 and 167.3 are nearby the Landfill Pond, but would be avoided by the proposed action.

Potentially 30 cubic feet of LLMW is expected to be generated by the proposed action. The waste would be classified as LLMW until it is characterized. It would be drummed and placed in an accumulation area until it is characterized. It is possible that RFETS Radiation Engineering may not allow removal of the MWTS unit and, therefore, it may be necessary for RFETS to purchase the pilot unit.

Cost and Schedule. The estimated cost of the proposed pilot-test project is $96,000. The duration is expected to be approximately 30 days. The field portion of the pilot test would take approximately 2 weeks (e.g., set-up, testing, demobilization). The anticipated start date for the action is July 1994.

Categorical Exclusion to be Applied:

B3.10 Small-scale research and development projects and small-scale pilot projects conducted (for generally less than two years) to verify a concept before demonstration actions, performed in an existing structure not requiring major modification.

DOE NEPA REGULATIONS SUBPART D
CATEGORICAL EXCLUSION DETERMINATION - RFFO/CX18-94
Pilot Test of Mobile Water Treatment System (MWTS)

I have determined that the proposed action meets the requirements for a categorical exclusion as defined in the Subpart D of 10 CFR 1021. Therefore, I approve the categorical exclusion of the proposed action from further NEPA review and documentation.

Date: July 28, 1994

Signature: _____
Mark N. Silverman
Title: Manager, Rocky Flats Office

RFFO Project Sponsor:

Date: July 18, 1994

Signature: _____
Cheryl L. Row
Title: Manager, Ecology Management

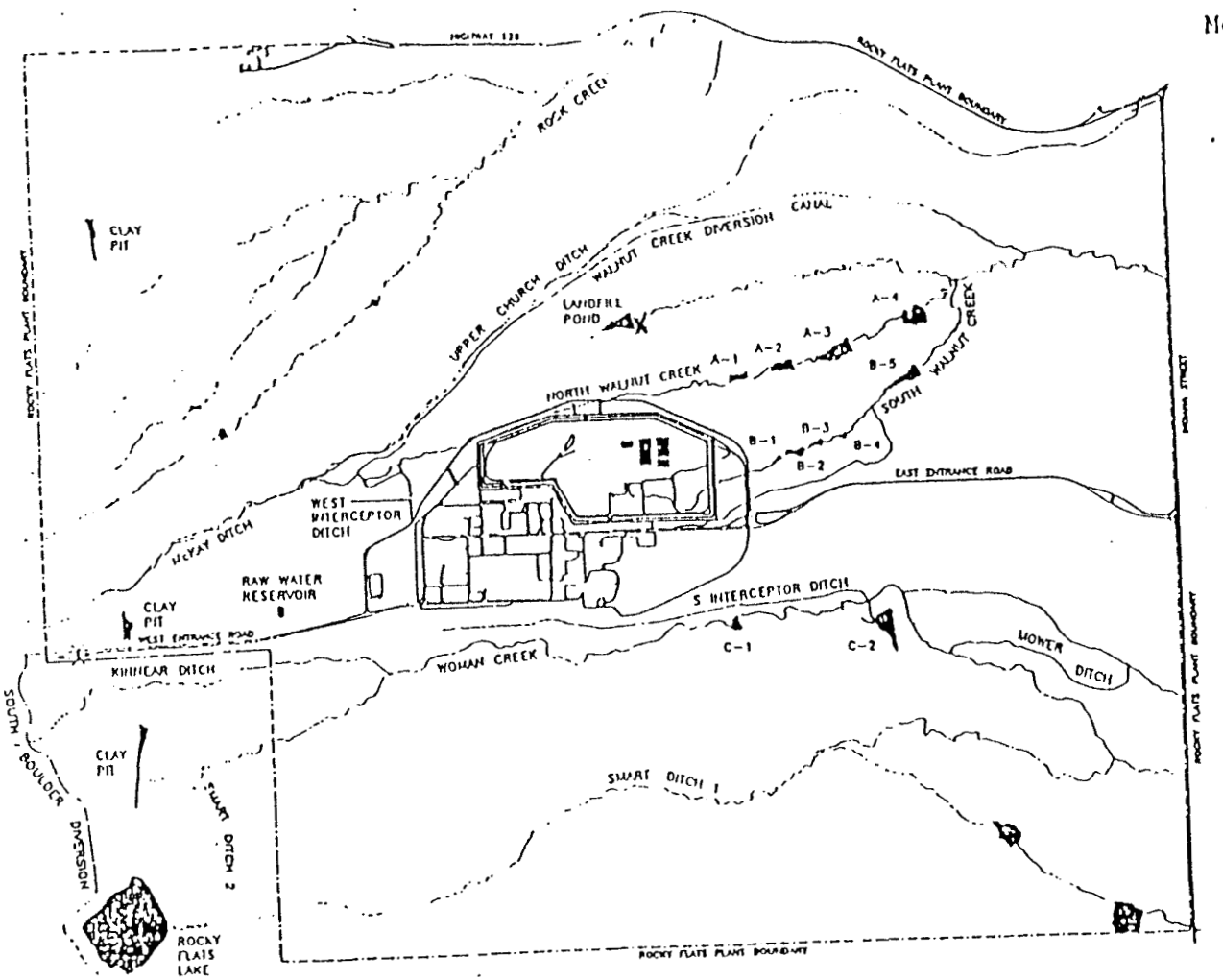
I have reviewed this determination and find that a categorical exclusion is the appropriate level of NEPA documentation.

Date: July 18, 1994

Signature: _____
Patricia M. Powell
Title: NEPA Compliance Officer

FIGURE 1
Test Site

Mobile Water Treatment System



LEGEND

SURFACE WATER FEATURE

X Proposed Location of MWTS Pilot Test (at Landfill Pond)

SCALE
2000 1000 0 1000 2000 FEET

ROCKY FLATS PLANT
WATERSHED
MANAGEMENT PLAN